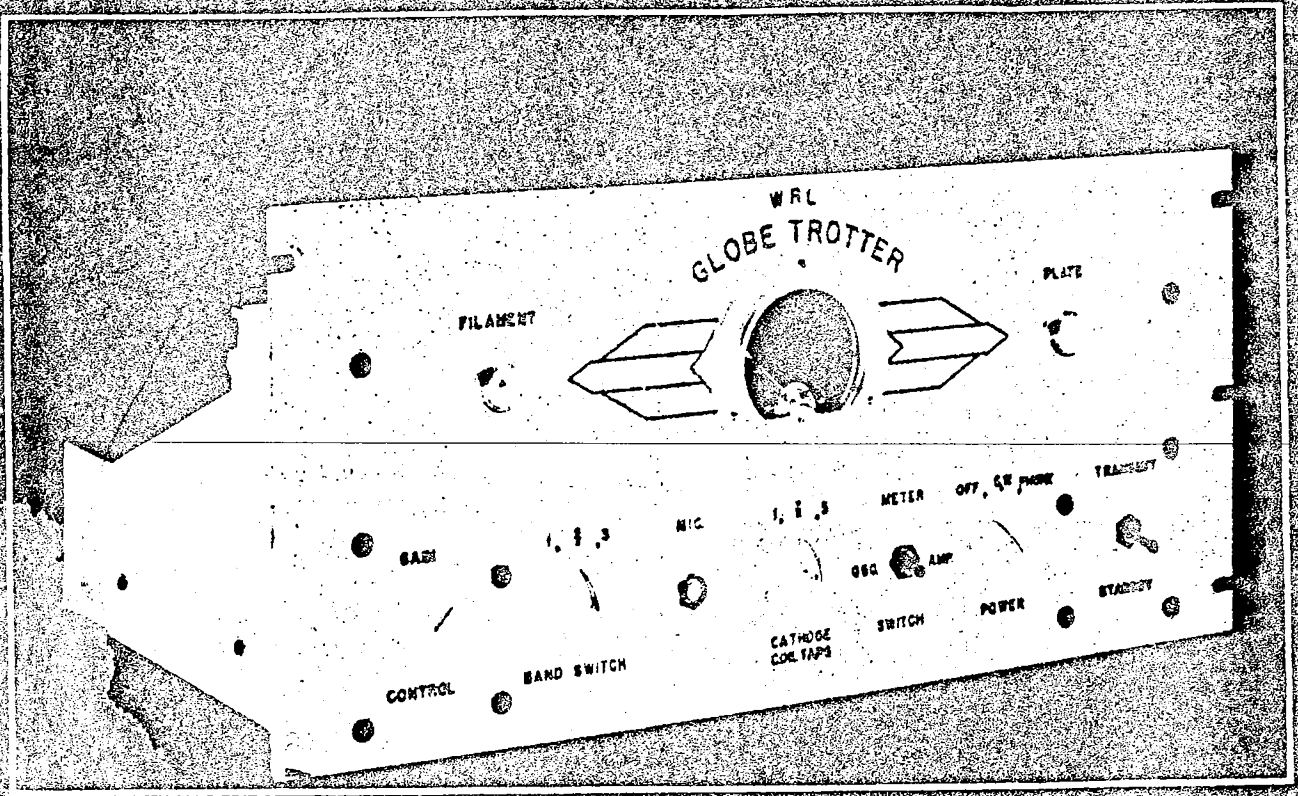
1946

GLOBE TROTTER TRANSMITTER



HI MANUALS
BOX 802
COUNCIL BLUFFS, IOWA 51502

K5MO

WRL GLOBE TROTTER GENERAL DESCRIPTION

Tube-complement: 6L6 Oscillator - 807 Final - (2) 5U4 Rectifiers -
6SJ7 Speech Amp. - 6N7 Driver - (2) 6V6 Modulators.
Power consumption 125 watts

The Globe Trotter incorporates the new hot cathode Xtal oscillator circuit which allows complete band coverage from 10 to 80 meters using only a 40 or 80 meter Xtal. A keying jack in the cathode of the oscillator allows break in operation on CW. The cathode coil switch, now serves to switch one of three different Xtals into the osc grid and the Band Switch serves to switch one of three sets of coils into the osc and final plate circuits. One of the power supplies is used for the final and modulators while the other supplies the Osc, speech and driver stages. The speech stage is conventional and allows the use of a Xtal or high impedance dynamic mic. The driver is connected in parallel as are the modulators and will supply sufficient modulation to the final stage.
Provisions have been made for an Antenna changeover relay and for remote operation of the transmitter which is explained in the tuning procedure.

TUNING PROCEDURE FOR GLOBE TROTTER

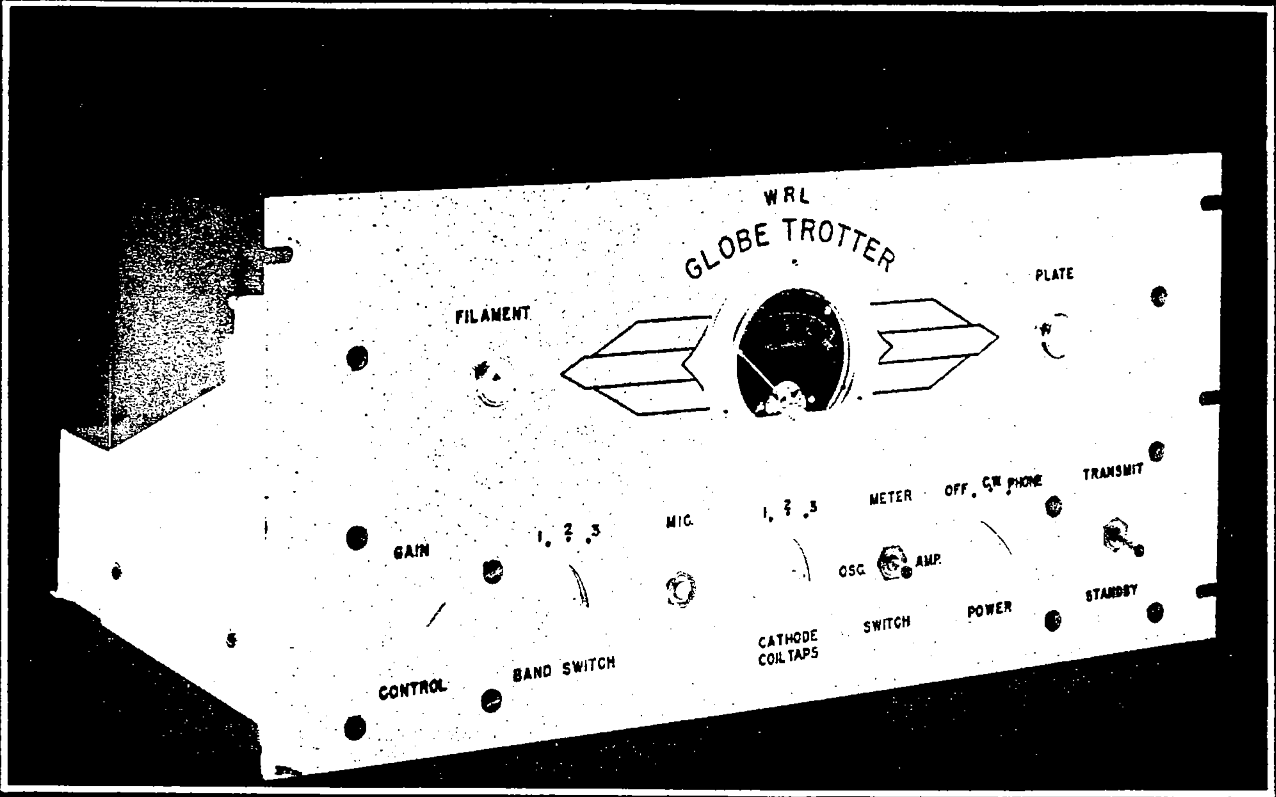
1. Set power switch to off position and Sw2 to Stand By.
2. Insert line cord provided, in receptacle of transmitter, and into a 110V. AC outlet.
3. Insert Mic. or key as desired.
4. Plug the Xtals into their respective sockets. See Coil and Xtal Chart.
5. Plug the desired coils into their respective sockets.
6. Check to see if tubes are in proper sockets.
7. Turn power switch to CW and allow one minute warm-up.
8. Set the Band switch and the Cathode switch to the proper position. (see coil chart).
9. Set meter switch to osc.
10 Turn on Transmit switch.
11 With an alignment screwdriver tune the condenser in the Osc. coil to resonance as indicated by a sharp dip in current on the meter.
12 Turn meter switch to Amp and tune the condenser in the final coil for resonance as indicated by a sharp dip in plate current. Always tune for minimum dip on the meter.
13 Turn off Transmit switch and attach the Antenna feeders to the two feed thru's at the rear of the Chassis.
14 Turn on the Transmit switch and again tune the final coil for minimum dip. This time it should be much higher as the final is loaded. It should be from 75 to 100 MA when fully loaded.
15 Turn off Transmit switch and turn power switch to Phone position allowing one minute warm-up for the tubes.
16 Turn on Transmit switch, advance gain approx half way for full modulation.

COIL AND XTAL CHART

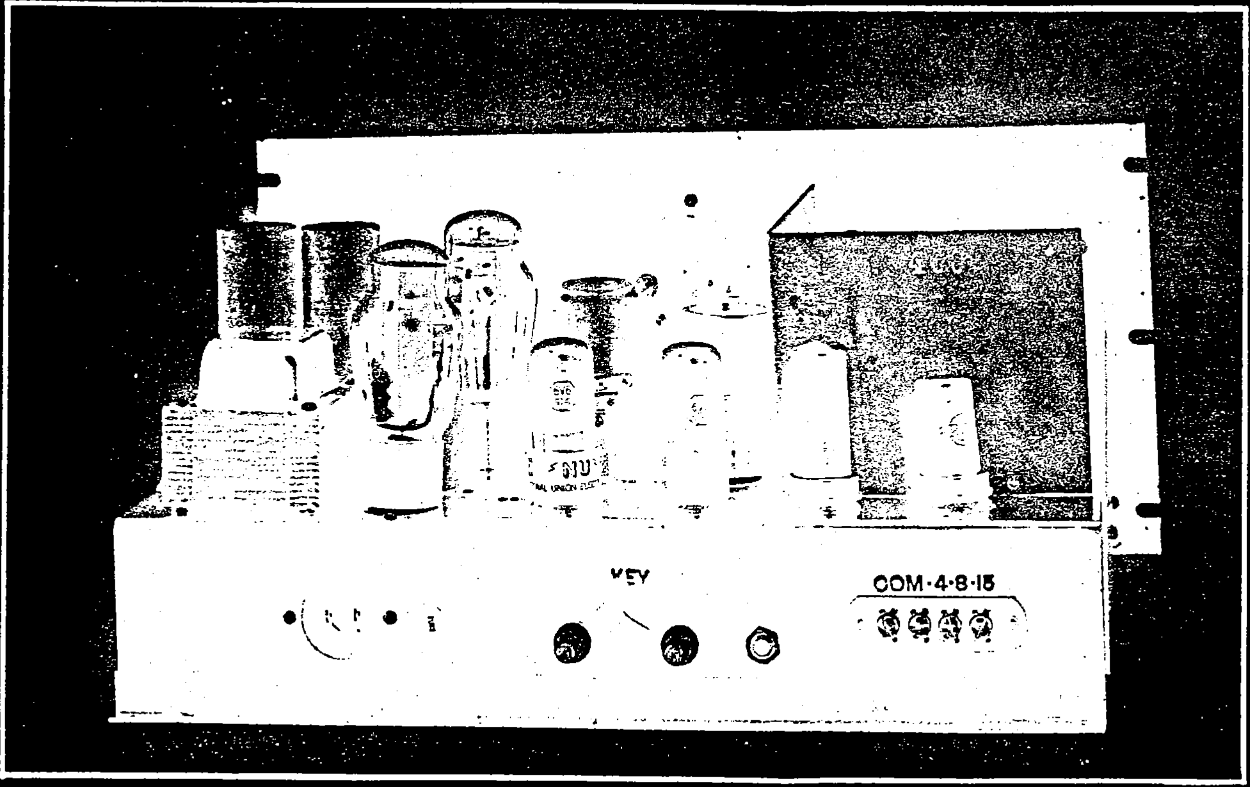
BAND	XTAL & SOCKET	OSC.COIL & SOCKET	FINAL COIL&SOC.	BAND SW.	CATHODE SW
10M	40M-Xtal 3	10M.osc-Osc 3	10M.F.-Final 3	3	3
20M	40M-Xtal 3	20M.osc-Osc 3	20M.F.-Final 3	3	3
40M	40M-Xtal 2	40M.osc-Osc.2	40M.F.-Final 2	2	2
80M	80M-Xtal 1	80M-osc-Osc.1	80M.F.-Final 1	1	1

For remote or push to talk operation, and ant. relay operation the following is recommended.

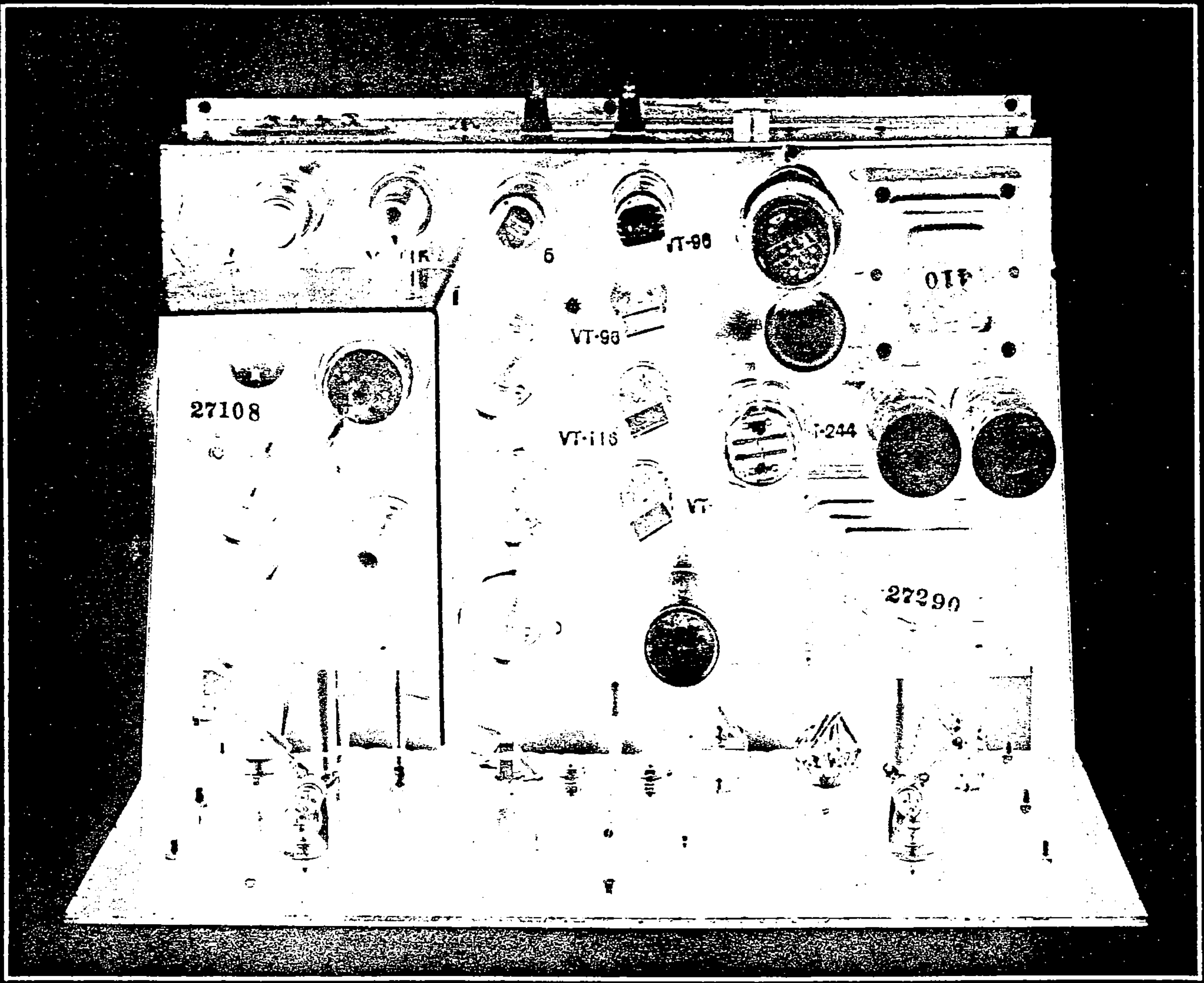
There are four terminals mounted on a bakelite strip at the rear of the chassis. The two terminals to the right (looking at the rear) supply 110V. AC when the Transmit switch is turned on, and to these terminals may be attached an antenna change-over relay. The two terminals to the left may be connected to a relay which can be energized by a mic. switch. The relay then acts to ground the CT of the power transformer secondaries.



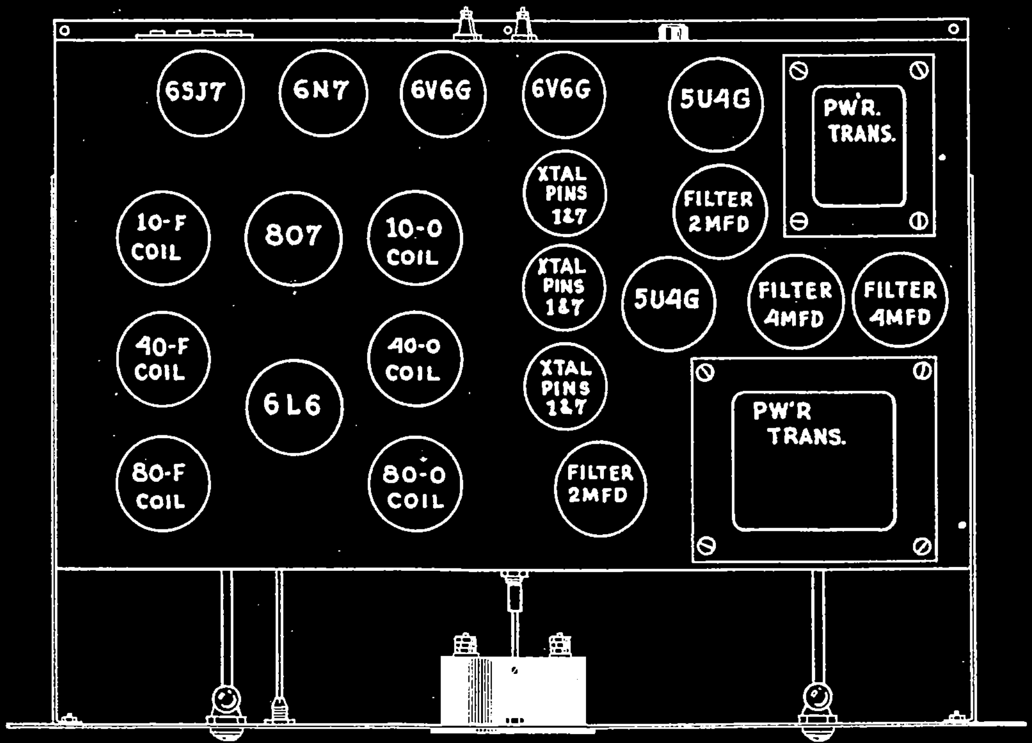
FRONT VIEW - PANEL



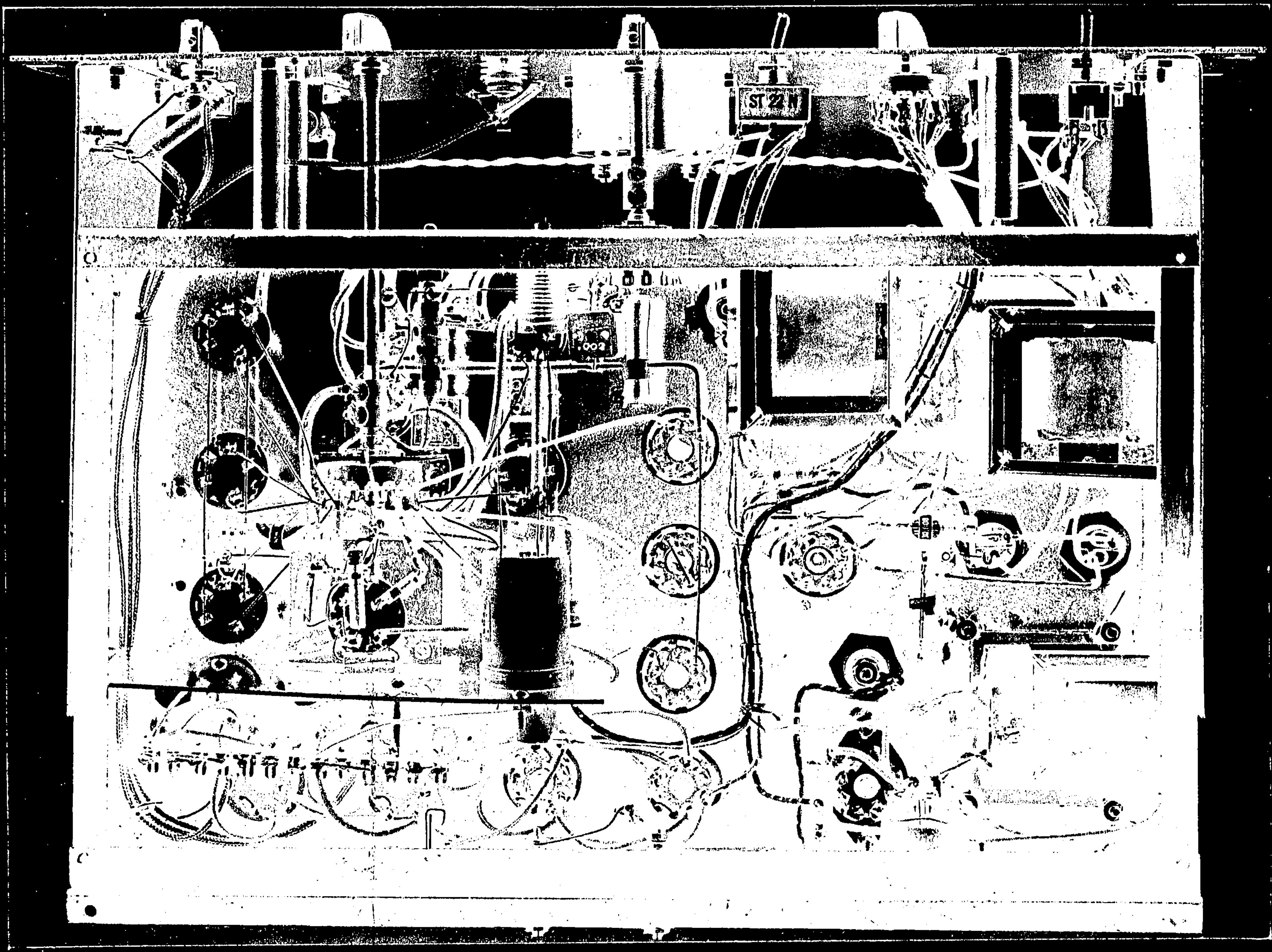
REAR VIEW



TOP VIEW



PLAN OF TOP VIEW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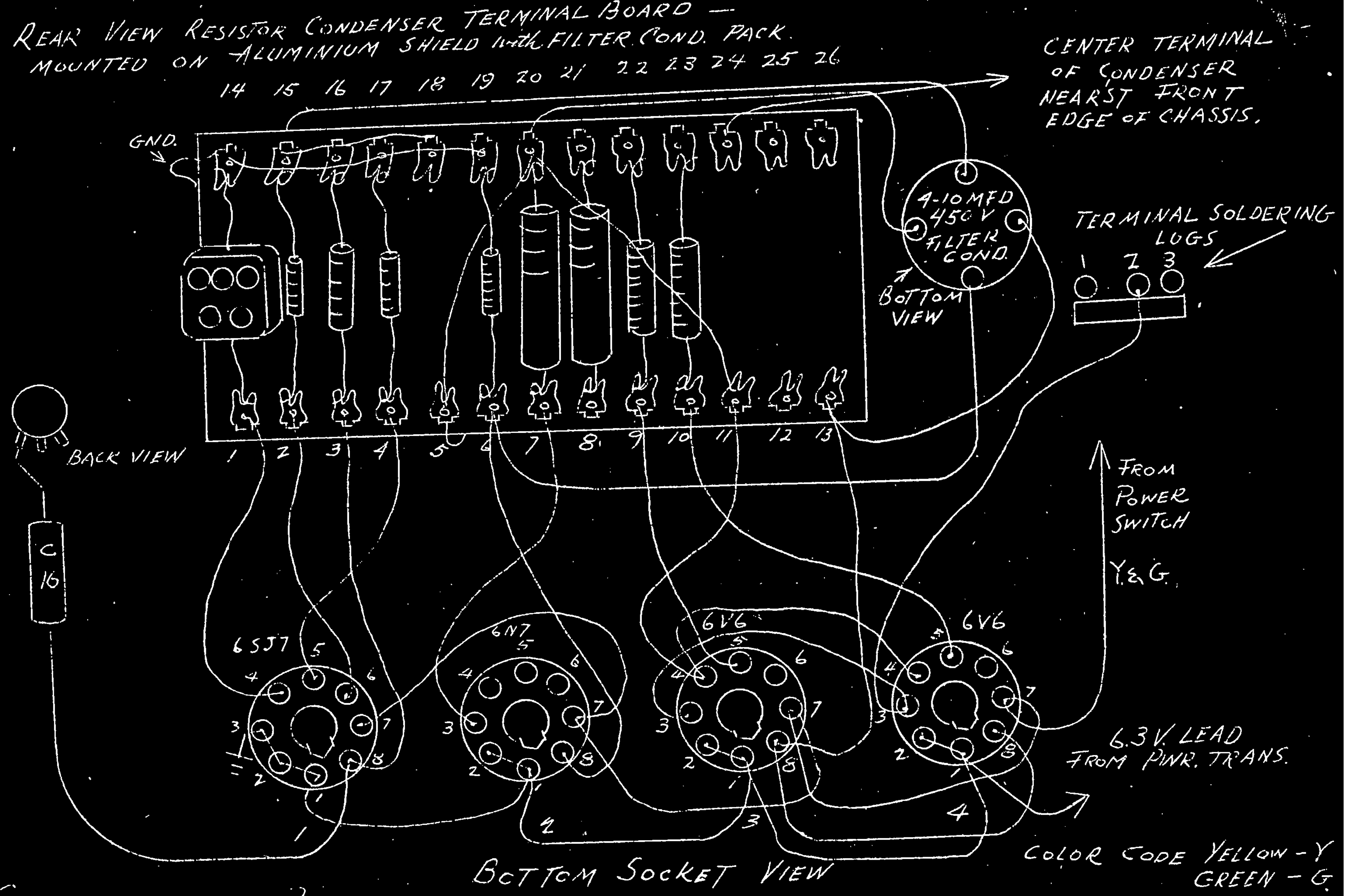
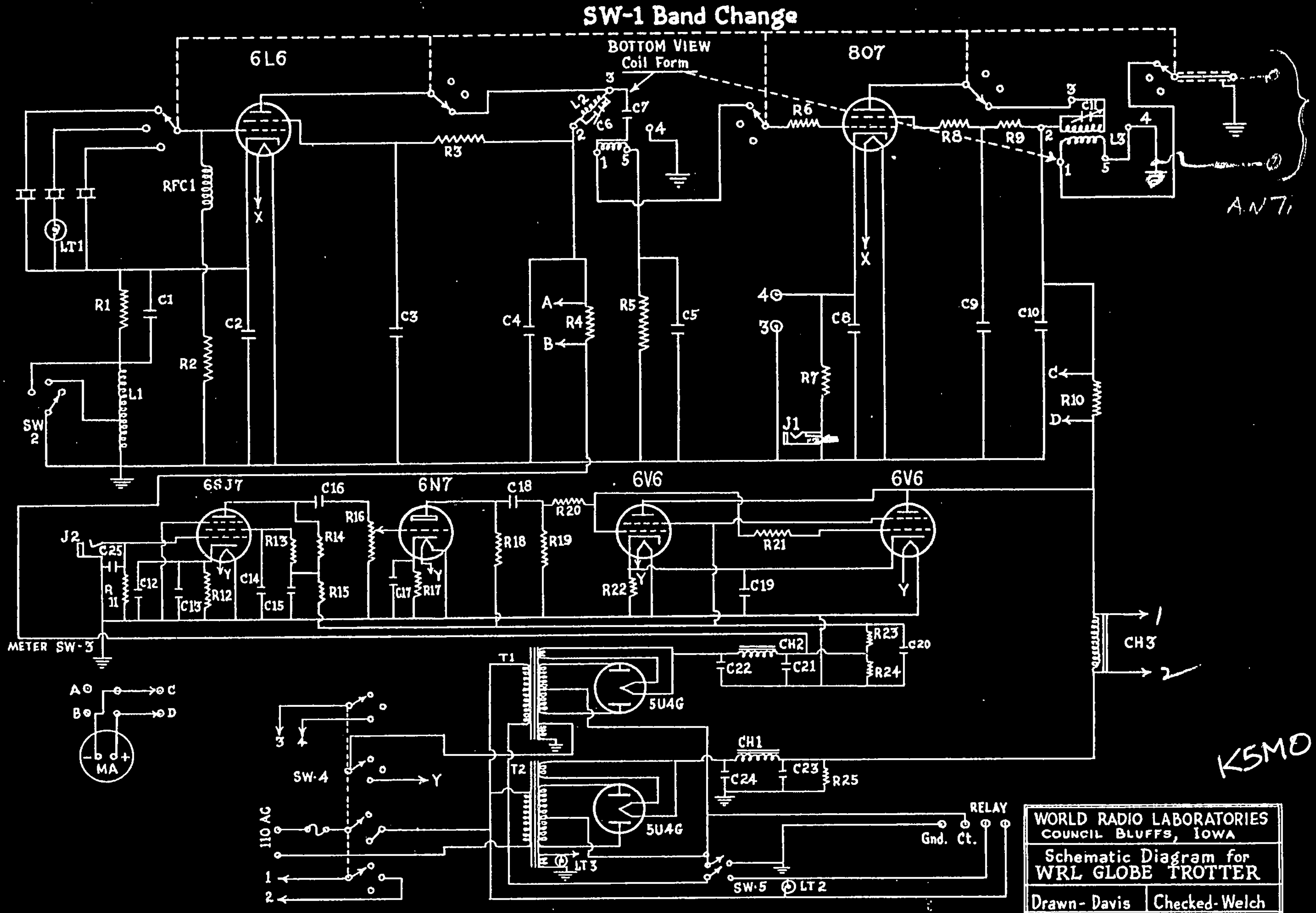
GLOBE TROTTER



(WORLD RADIO LAB. ART DEPT.)



WORLD RADIO LABORATORIES
COUNCIL BLUFFS, IOWA

Schematic Diagram for
WRL GLOBE TROTTER

Drawn- Davis	Checked- Welch
Date 6-21-'46	
Redrawn-Murray	Rechecked-DAVIS

GLOBE TROTTER PARTS LIST

1-chassis
1-Panel
2-Side brackets
2-Power Transformers
2-10H-150MA chokes
1-10H-80MA choke
2-4mf-600V cond.
2-2mf-600V cond.
1-Band switch & Bracket
1-off CW phone Switch
1-DPDT meter sw.
2-110V Pilot lite assy.
1-DPDT Transmit sw.
2-S6 bulbs
2-closed ckt. jacks
1-Gain Control
6-5 Prong bakelite sockets
9-Octal bakelite sockets
1-Octal ceramic socket
1-110V. male receptacle
1-Fuse post & 3 amp fuse
2-1" feed thru insulators
1-4 screw terminal board

1-5 Prong ceramic socket and mounting plate
6-3 lug tie strips
1-1 lug tie strip
3-2 lug tie strips
1-807 shield
2-Interstage shields
1-4/10 mf-450V cond.
2-Panel bearings
1-8" extension shaft
1-3" extension shaft
2-Shaft Couplers
1-cathode sw.

1-807 plate cap
2-Harnessess
3' #16 bus wire
3' #18 solid covered wire
3' #20 stranded covered wire
4-Panel pillars
10-short rack screws
4-Short flat head pillar bolts
2-Meter lugs

3-16" pcs. shield mic cable
35-6/32 nuts and bolts
4-8/32 nuts
6-solder gnd lugs
1-line cord and plug
R1-100k-½w
R2-100k-1w
R3, 9-10 Ohms-1w
R4, 5-47K-2w
R6, 15k-1w
R7 & R22 -47 ohms 1 W.
R8, 21-7000 Ohms- 10w.
R10-2.2M-½w.
R11-2200-½w.
R12-1.1M-½w.
R13,17-220K-½w.
R16-1500 Ohms-½w.
R14,18-20K-½w
R19-400K-½w
R20-200-10w

CL-100 mmf
C2, 3, 6, 7, 8-.002mf-500V
and C5

C4-15 mmf-500V

C10,14-10mf-50V
C11-.1mf-400V
C12,15,16,18-10mf-450V Can Cond.
C13,17-.01mf-600V
M-0-200MA
J1-Key jack
J2-Mic Jack
SW1-DPDT Toggle
RFC1,2,3,4-2.5MH-125MA
CH 1-10H-150MA
Power Supply
R1,2-30K-20w
C1,3-4mf 600V
C2, 4-2mf-600V
Ch 1-10H-80MA
Ch 2-10H-150MA
SW 1-DPST Transmit sw.
FS1-3 Amp fuse

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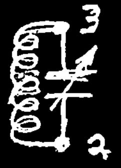
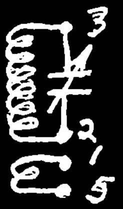
GLOBE TROTTER COILS

OSC.



FINAL



80 M	32 TURNS # 22 WIRE	LINK 4 TO 6 TURNS
40 M	14 TURNS # 20 WIRE	LINK 3 TO 5 TURNS
20 M	8 TURNS #20 WIRE	LINK 2 TO 4 TURNS
15 M	6 TURNS # 20 WIRE	LINK 2 TURNS
10 M	4 TURNS # 20 WIRE	LINK 2 TURNS
10 M	OSC. USE 20 M OSC. COIL	

80 AND 40 M ARE CLOSE WOUND
20 15 10 SPREAD WINDING OVER 1 1/4 INCHES

80 M - 140 UUFD
40 M - 75 TO 100 UUFD
20 M - 50 UUFD ********* USE HAMMARLUND APC CAPACITORS
15 M - 35 UUFD
10 M - 25 UUFD

USE 80 AND 40 M FUNDAMENTAL TYPE CRYSTALS